

TIMELY INFORMATION

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OCTOBER PLANT PROBLEM REPORT FROM THE AUBURN PLANT DIAGNOSTIC LAB

OCTOBER PLANT PROBLEM REPORT FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB

OCTOBER INSECT REPORT FROM THE AUBURN PLANT DIAGNOSTIC LAB

DISEASE POSSIBILITIES FOR NOVEMBER

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Auburn Plant Disease Report-October (J. Mullen)

In October we received 64 samples. This number is comparable to the plant sample numbers received in 2006-2007. It is about half the number of samples received before our last 3 drought years. As is usual for October, rainfall was low in many areas of the state.

Many of our October plant problems were abiotic in nature. The most common disease problem seen in October was *Rhizoctonia solani* seen as large patch (brown patch) on centipede, St. Augustine, and also causing a crown rot on ajuga. The following diseases were also diagnosed: bacterial leaf spot on tomato, *Alternaria* leaf spot on zinnia, rust on zoysia, dollar spot (*Sclerotinia homeocarpa*) on bermuda, and *Phytophthora* crown and root rot on blueberry, ivy, dwarf gardenia, and *Vinca minor*.

Take-all patch and gray leaf spot were seen on St. Augustine in southern sections of the state. Rose diseases seen included Botrytis blight, Cercospora leaf spot, black spot, suspect common canker, and suspect Armillaria crown & root rot. We also noted some cankers associated with the black spot fungus. We received a peanut sample that contained early leaf spot, white mold, and suspect pepper spot. The symptoms were typical of pepper spot; the usual diagnostic fruiting bodies of *Leptosphaerulina* were not confirmed but *Pithomyces* was seen; *Pithomyces* is reported to be the imperfect stage of *Leptosphaerulina* sp. but pepper spot literature does not mention *Pithomyces*. (*Pithomyces* spp. are generally considered saprophytes.) We received some blueberry samples that showed canker with associated *Botryosphaeria* and *Phomopsis*. These fungi are often secondary to other problems. The other problems may relate to abiotic factors or insect problems. Botrytis canker was noted on peony last summer and again in October. This disease is reported to be a serious problem on peony in some northern areas of the U.S.

Table 1. 2008 October Plant Diseases Seen In The Auburn Plant Diagnostic Lab.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Ajuga	<i>Rhizoctonia solani</i> Crown Rot	Tuscaloosa
	Suspect <i>Botryosphaeria</i> Canker	Houston
Blueberry	<i>Botryosphaeria</i> Canker	Elmore
	<i>Phomopsis</i> Leaf Spot/Canker	Elmore
	<i>Phytophthora</i> Root Rot	Elmore
Centipede	Brown Patch (<i>Rhizoctonia solani</i>)	Chilton, Elmore, Lamar
Collards	Bacterial Leaf Spot-Suspect Secondary	Bullock
Gardenia	<i>Phytophthora</i> Crown & Root Rot	Montgomery
Iris	Bacterial Soft Rot	Geneva
Ivey	<i>Phytophthora</i> Root Rot	Geneva, Pike
Leyland Cypress	<i>Pestalotia sequoia</i> Foliage Blight (<i>Cercosporidium</i>)	Houston
Peanuts	Early Leaf Spot (<i>Cercospora arachidicola</i>)	Lee
	Pepper Spot (<i>Leptosphaerulina crassiasca</i>)	Lee
	White Mold (<i>Sclerotium rolfsii</i>)	Lee

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Pecan	Scab (<i>Cladosporium effuscum</i>)	Jefferson
Rose	Black Spot (<i>Marssonina rosae</i>)	Marshall
	Botrytis Dieback	*
	Canker, Suspect Common Canker (<i>Coniothyrium fuckelii</i>)	Houston
	Cercospora Leaf Spot	Marshall
	Suspect Armillaria Root/Crown Rot	Houston
Soybean	Anthracnose (<i>Colletotrichum</i>)	Baldwin
	Pod & Stem Blight (<i>Diaporthe phaseolarum</i> var. <i>sojae</i>)	Baldwin
St. Augustine	Brown Patch (<i>Rhizoctonia solani</i>)	Houston
	Gray Leaf Spot (<i>Piricularia grisea</i>)	Marengo
	Take-All Patch (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>)	Mobile (2); Marengo
Tomato	Bacterial Leaf Spot	Geneva
Turnip	Cercospora Leaf Spot	Henry
Vinca Minor	Phytophthora Root Rot	*
Zinnia	Alternaria Leaf Spot	Escambia
Zoysia	Leaf Rust (<i>Puccinia</i> sp.)	Montgomery

*Counties are not reported for greenhouse, nursery, or golf course samples.

Birmingham Plant Disease Report-October (J. Jacobi)

We had 71 samples in the month of November. Rainfall and temperatures were just slightly below normal for the month. Most of the problems brought in to the lab were caused by abiotic (nonliving) forms of disease. Some of the common disease and insect problems were

Phytophthora root rot on boxwood, root-knot nematodes on coleus, twig girdlers on elm and pecan, and Botryosphaeria canker on maple and willow.

Moderate galling and stunting of the root system was found on coleus from a commercial flower planting. The damage was not noticed until the plants were pulled to install pansies for the fall-spring season. The plants had performed well during the summer, although the gardener noticed that the plants had a tendency to fall over during high winds or thunderstorms. The best recommendation in these cases is to plant a non-host flower in this location next year. Vinca, marigold, zinnia, and salvia would be good choices for planting next summer. For a complete listing of sensitivity of annuals to root-knot nematodes see the on-line publication ANR-689, <http://www.aces.edu/pubs/docs/A/ANR-0689/ANR-0689.pdf>.

Twig girdlers (*Oncideres pustulatus*) have been unusually common this year on hardwood trees, especially on hickories and pecans. We've also seen the damage on other trees including persimmon and elm in recent years. Their damage can be recognized by the precision-like pruning cuts made in twigs ranging from ¼ to ½ inches in diameter. They have been so common this fall that it's not unusual to see a carpet of pruned branches (10-30 inches in length) littering the yards and woodlots in our area. The best control for homeowners is to collect and destroy the fallen twigs before next spring. Insecticide applications are not practical and rarely justified.

Table 2. 2008 October Problems Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problems</u>	<u>County</u>
African Violet	Mealybugs	Jefferson
Arborvitae	Armillaria Root Rot	Jefferson
	Spruce Spider Mite	Jefferson
Aucuba	False Spider Mites (<i>Tenuipalpidae</i>)	Jefferson
Boxwood, Common	Phytophthora Root Rot	Jefferson
Boxwood, English	Phytophthora Root Rot	Jefferson
Camellia	Canker and Dieback (<i>Glomerella</i>)	Jefferson
	Tea Scale	Jefferson
Coleus	Root-Knot Nematode (<i>Meloidogyne</i>)	Jefferson
Collards	Oedema	Jefferson
Cryptomeria	Pestalotiopsis Tip Blight	Shelby

<u>Plant</u>	<u>Problems</u>	<u>County</u>
Cypress, Bald	Bald Cypress Mealybug	Jefferson
Daylily	Plant Bug (<i>Lopidea</i>)	Shelby
Elm	Twig Girdler	Jefferson
Gardenia	Phytophthora Root Rot	Jefferson
	Pythium Root Rot	Shelby
Hydrangea, Bigleaf	Corynespora Leaf Spot	Jefferson
Indian Hawthorn	Entomosporium Leaf Spot	Jefferson
Iris	Bacterial Soft Rot (<i>Erwinia</i>)	Jefferson
Leucothoe, Coastal	Powdery Mildew	Jefferson
Pecan	Twig Girdler	Jefferson
Maple, Red	Botryosphaeria Canker	Jefferson
Oak, Water	Cynipid Gall Wasps	Jefferson
Pansy	Phytophthora Crown Rot	Jefferson
Sugarberry	Asian Woolly Hackberry Aphid	Jefferson
	Sooty Mold	Jefferson
Turnip	White Spot (<i>Cercospora</i>)	Jefferson
Willow, Corkscrew	Botryosphaeria Canker	Shelby
Zoysiagrass	Large Patch (<i>Rhizoctonia</i>)	Shelby

Auburn Entomology Report-October (C. Ray)

Reminder About Pink Hibiscus Mealybug

Recently Pink Hibiscus Mealybug was detected on tropical Hibiscus in north Georgia (see http://www.walterreeves.com/insects_animals/article.phtml?cat=21&id=1051 – thanks to Jim Jacobi for forwarding this link). This should serve as a reminder that Pink Hibiscus Mealybug can appear almost anywhere because of the movement of infested plant material through commercial and private avenues. Pink Hibiscus Mealybug has been found in Alabama on 2 previous occasions, both in large retail outlets in the southern part of the state. In both cases, the Alabama Department of Agriculture and Industries was able to respond and eradicate this pest.

Pink Hibiscus Mealybug or PHM can infest more than 200 different plants. It has a toxic saliva that can cause distortion of growing plants and because it may have more than 6 generations per year and because it has few natural enemies, it can rapidly build in numbers. It can infest ornamentals, row crops and some forest plants.

If you suspect PHM, immediately submit a sample to the Plant Diagnostic Lab. If positive, the Alabama Department of Agriculture and Industries will be notified. There are field identification guides for PHM identification, but field identification must be confirmed by examination of slide-mounted specimens.

Please follow the guidelines below (developed by the Florida Department of Plant Industries) for submittal:

1. Preserve mealybugs on small pieces of host plant in isopropyl alcohol (rubbing alcohol).
2. Include complete collection and location data.
3. Include large mealybugs on small pieces of host material (Adult females are required for a proper identification). Please do not try to remove mealybugs from the host plant material.
4. An alternative methods is to use a freezer zip-lock bag with a small amount of rubbing alcohol (perhaps 5-10 ml) and place the small pieces of plant material with mealybugs inside the bag. Ship in a manner that will not crush the specimens. Please do not use the zip-lock bag without alcohol, as moisture and fungus will destroy the specimens.

County	Host	Category	Identification	Scientific Name
Jefferson	Hardwood Flooring	Household-Structural	True Powderpost Beetle	Too damaged for specific ID
Minnesota		Miscellaneous	Galium Sphinx	<i>Hyles gallii</i>
Dallas	Home	Household Miscellaneous	Crab Spider	Thomisidae
Mobile	Phoenix canariensis	Fruit & Nuts	Palemetto Weevil	<i>Rhyncophorus cruentatus</i>

County	Host	Category	Identification	Scientific Name
	palm			
Mobile	Patio	Household-Miscellaneous	Orchard Spider	<i>Leucauge venusta</i>
Mobile	Patio	Medical	Brown Widow Egg Sacs	<i>Latrodectus geometricus</i>
Tuscaloosa	Butterfly Bush	Ornamental	Oleander Aphid	<i>Aphis nerii</i>
Tuscaloosa	Butterfly Bush	Ornamental	Large Milkweed Bug Nymph	<i>Oncopeltus fasciatus</i>
Greene	Collards	Row Crops	Whiteflies	Aleyrodidae
Wilcox	Persimmon	Fruits & Nuts	An Eriophyid Mite	<i>Aceria theospyri</i>
Montgomery	Sugarberry	Ornamental	Darking Beetle Larvae	Tenebrionidae
Lee		Miscellaneous	Long Tail Skipper	<i>Urbanus proteus</i>
Calhoun	Home	Household-Stored Products	Plaster Bagworm	<i>Phereoeca uterella</i>
Dekalb		Medical	European Hornet	<i>Vespa crabo</i>
Houston	Aircraft Hangar	Miscellaneous	Giant Ichneumon Wasp	<i>Megarhyssa macrurus</i>
Baldwin	Live Oak	Ornamental	A Gall Wasp Larva	Possibly <i>Andricus quercusfoliatus</i>
Chambers	Peach	Fruits & Nuts	San Jose Scale	<i>Diaspidiotus perniciosus</i>
Coosa	Saw Tooth Oak	Ornamental	Spider Mites	<i>Oligonychus</i> sp.
Choctaw		Miscellaneous	Golden Orb Weaver	<i>Nephila clavipes</i>
Mobile	Basil	Ornamental	A Spittle Bug Nymph	Cercopidae
Lee	Home	Household-Structural	Black Carpenter Ant	<i>Camponotus pennsylvanicus</i>

County	Host	Category	Identification	Scientific Name
Shelby	Day Lily	Ornamental	Day Lily Plant Bug	<i>Lopidea</i> possibly <i>confluenta</i>
Jefferson	Unknown	Miscellaneous	Juvenile Female Spider	<i>Castianeira</i> poss. <i>descripta</i>
Geneva	Soybeans	Row Crops	Apparent Stink Bug Damage	
Baldwin	Soybeans	Row Crops	Possible Stink Bug Damage	
Houston	Holly	Ornamental	Florida Wax Scale	<i>Ceroplastes floridensis</i>
Houston	Centipede Sod	Turfgrass	An Odonaspis Scale	<i>Odonaspis</i> sp.

Disease Possibilities For November

Typically in November, we see *Helminthosporium* (*Bipolaris*, *Drechslera*, and *Exserohilum*) leaf spots on small grains and grasses. Rust may be seen on small grain crops. A variety of pansy diseases may be seen. Turnips and other related plants often develop *Cercospora* and *Cercosporella* leaf spots. Greenhouse crops may develop *Botrytis* and a variety of other fungal and bacterial diseases.

The list below includes some common disease problems received in the lab during November of the past few years. Comments on control practices are brief. Refer to the Alabama Pest Management Handbook or appropriate fact sheet for details on disease control.

Table 3. Disease Descriptions and Brief Control Comments on Some Common Diseases Often Seen in November.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Alfalfa	Leptosphaerulina Leaf Spot	Leaf spots on young leaves and petioles; small, black, pepper spots or 1-3 mm eyespots with tan centers, dark brown borders and diffuse halos.	None.
	Rust (<i>Uromyces striatus</i>)	Small yellow and red-brown colored leaf spots.	Check with A. Hagan.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ajuga	Rhizoctonia Crown & Root Rot	Crowns & roots develop a brown, dry decay.	Sanitation. Cleary's 3336 will provide protective disease control.
	Phytophthora Crown & Root Rot	Dieback. Roots are dying, brown, & soft rotted.	Sanitation. Reduce soil water levels.
Allspice (<i>Pimenta dioica</i>)	Rust	Yellow-brown leaf spots sometimes with red-orange powdery spore masses.	Sanitation.
Anise, Japanese	Phytophthora Root Rot	Dieback. Roots are dying, brown, & soft rotted.	Sanitation. Reduce soil water levels.
Arbor-vitae	Pestalotiopsis Tip Blight	Branch tips turn brown; browning gradually progress down the branch.	Pruning. Halt may provide some disease control.
	Phytophthora Root Rot	Roots become brown, decayed. When disease is active, roots are water-soaked.	Sanitation; protective fungicide drenches. See AL Pest Management Handbook.
	Pythium Root Rot	Dieback. Affected small roots become slightly brown and soft rotted.	Sanitation. Reduce water levels in soil. See fungicides in AL Pest Management Handbook under Arbor-vitae and Phytophthora.
Asparagus	Helminthosporium Stem Spots	Brown elongated, usually about ½ inch long, somewhat rectangular stem lesions.	Sanitation. Mancozeb fungicides.
Azalea	Colletotrichum Leaf Spot	Circular, small (2-4 mm), round leaf spots.	Sanitation. See the AL Pest Management Handbook.
	Phomopsis Dieback	Sunken, elliptical, necrotic lesions on branches with dieback of distal branch segments.	Sanitation. See the AL Pest Management Handbook.
	Phytophthora Root Rot	Foliage dieback. Roots become brown, water-soaked; later roots dry	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		out.	
	Powdery Mildew (<i>Microsphaeria</i>)	Whitish powdery dusting on leaves; some leaf deformity if infection occurs on new growth; infected leaves eventually become yellowed.	See the AL Pest Management Handbook.
Azalea (Cuttings, Liners)	Aerial Web Blight (<i>Rhizoctonia</i>)	Lower leaves become brown spotted or blighted; when conditions are humid, a delicate mycelial webbing may occur on infected leaves; eventually, infected, blighted leaves drop.	See the AL Pest Management Handbook.
	Phytophthora Root Rot	See Arbor-vitae.	See Arbor-vitae comments.
Azalea (Cutting)	Rhizoctonia Cutting End Rot	Cutting ends develop brown lesions which may completely encircle the stem. Plant death results.	Sanitation.
Barley	Net Blotch (<i>Drechslera</i>)	Narrow, dark brown, longitudinal and transverse net-like streaks on leaves and leaf sheaths. Severely infected leaves may completely die.	Rotation.
Begonia	Cylindrocladium Canker	Dark brown, sunken lesions on lower stems near soil line.	Sanitation - remove damaged plants and some soil in lower stem area.
Bentgrass	Pythium Blight/Root Rot	Foliage becomes yellowed and then brown as a result of the decaying roots which appear brown and water-soaked.	See the AL Pest Management Handbook for recommendations.
	Rhizoctonia Aerial Blight	Foliage develops brown spots and blight areas. Dieback.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Bermuda	Bipolaris Leaf Spot & Crown Rot	Small elongated spots; spot coalescence and blight of whole leaf blades when disease is severe; lower stem may become necrotic.	See the AL Pest Management Handbook.
	Pythium Root Rot	Foliage turns yellow and dieback follows. Roots become light brown and soft rotted.	See the AL Pest Management Handbook.
Birch, River	Anthrachnose (<i>Cryptocline</i>)	Brown blotches on leaves; blotches may occur along veins or at leaf edges.	Sanitation.
Boxwood	Macrophoma Blight	Leaves are yellow with tiny black specks.	Collect all fallen leaves and remove them from the area; identify and eliminate stress factors; Cleary's 3336 or Halt may be used if desired.
	<i>Nectria cinnabarina</i> Canker	Sunken lesions on branches, sometimes with orange pin-point bodies of the fungus; dieback.	Pruning at least 3 inches beyond the canker edge.
	Phytophthora Root Rot	Lower foliage turned yellow and brown; roots are rotted with tissues water-soaked and brown.	Remove plants. Improve soil drainage. See the AL Pest Management Handbook if a large planting or nursery.
	Pythium Root Rot	This is often a secondary problem on plants previously weakened by other factors. Roots become light brown and soft rotted. Lower foliage will initially turn yellow and brown. Foliage browning will gradually spread upward through the plant.	Remove dying plants; improve soil drainage; reduce water levels in soil. Eliminate stress.
	Volutella Blight	Dieback, cankers and orange spore masses develop on branches/trunk.	Pruning or plant removal. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Broccoli, Cabbage	Black Rot (<i>Xanthomonas</i>)	Yellow or brown V-shaped patches occur at leaf edges. Later, leaf veins in the yellowed areas become black. The black leaf veins extend down the leaf and eventually the vascular elements in stem become black.	Hot water seed treatment or plant certified disease-free seeds. When disease is present, rotate area away from crucifers for 2-3 years.
Camellia	Phyllosticta Leaf Spot	Dark purple-brown circular-oval leaf spots.	Sanitation in the fall. Protective fungicide sprays (Cleary's 3336) if disease appears early in the season.
	<i>Phytophthora ramorum</i> Blight (Sudden Oak Death)	Brown, wet leaf spots on leaves and small stems/twigs; dieback.	Review symptoms & situation with the grower. Contact the AL State Department of Agriculture if you think testing is needed.
	Phytophthora Root Rot	Foliage dieback. Roots become brown and water-soaked and later dry out.	See the AL Pest Management Handbook.
Camellia, Sasanqua	Anthracoese Leaf Spot (<i>Colletotrichum</i>)	Gray-brown, usually circular leaf spots.	Sanitation of fallen leaves. Cleary's 3336 or Halt protective fungicide sprays will help.
Centipede	Large Patch [Brown Patch] (<i>Rhizoctonia</i>)	A light brown circular patch; crowns and leaf blades become brown and dead.	See AL Pest Management Handbook.
	Ring Nematode (<i>Criconemoides</i> sp.)	Patches of lawn show yellowing and thinning.	See ANR-523.
Cherry Laurel 'Otto Lukin'	Botryosphaeria Canker	Elongated sunken branch lesions, often with cracks along the margin.	Sanitation.
	Phytophthora Root Rot	Dieback; roots become brown & wet rotted; roots later dry out.	Remove damaged tree roots & root associated soil. Reduce water levels at the site.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
			Replace some soil with fresh top soil.
Chrysanthemum	Pythium Root Rot	Roots brown and water-soaked. Foliage yellows and shows poor growth, dies.	Sanitation; protective fungicide drench treatments; see AL Pest Management Handbook.
Collards	Anthracnose	White-cream, circular-irregular leaf spots.	Copper fungicides.
	Black Rot (<i>Xanthomonas</i>)	See Broccoli.	---
	Cercospora Leaf Spot	Light brown irregular spots (about 0.6 cm or ¼ inch diameter), sometimes with a darker brown border.	Sanitation.
Columbine	Botrytis Blight	Gray-brown blotches develop on blossoms, leaves, and stems.	Sanitation. Cleary's 3336 or Halt may be applied for protective control.
	Pythium Root Rot	Foliage dieback; roots become water-soaked, and brown, and later dry out.	Sanitation; reduce water levels in the area; crop rotation.
Coneflower	Aster Yellows (Suspect)	Plants become stunted with green flowers and some abnormal foliage development.	Sanitation.
Cotoneaster	Phytophthora Root Rot	Foliage dieback. Roots become brown, water-soaked and later dried.	Sanitation. Reduce water levels. Subdue protective treatments, following label directions.
Cucumber	Downy Mildew (<i>Pseudoperonospora</i>)	Irregular yellow spots that become necrotic.	See the AL Pest Management Handbook.
Daylily	Phytophthora Root Rot	Roots become brown and wet; later dead roots become dry; plant foliage shows wilt and dieback.	Sanitation; remove damaged plants; remove some root-associated soil; decrease water levels in the soil.
	Rust (<i>Puccinia hemerocallidis</i>)	Yellowing spots and blight of leaves. Orange powder may wipe off on fingers.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Dianthus	Bacterial Leaf Spot (<i>Xanthomonas</i>)	Small, black angular, wet-looking spot.	Sanitation; Kocide may help.
	Colletotrichum Leaf Spot	Irregular brown, sometimes circular spots.	Sanitation; protective sprays of Cleary's will help.
Eleagnus	Phytophthora Root Rot	Roots become brown and wet; later dead roots become dry; plant foliage shows wilt and dieback.	Sanitation; remove damaged plants; remove some root-associated soil; decrease water levels in the soil.
Fescue, Tall	Pythium Blight	Brown, water-soaked lesions, blight on foliage.	Reduce watering schedule. Apply protective fungicides. See the AL Pest Management Handbook and ANR-1168.
	Rust (<i>Puccinia</i>)	Yellowing spots and blight of leaves. Orange powder may wipe off on fingers.	See the AL Pest Management Handbook.
Fig	Common Rust (<i>Cerotelium</i>)	Yellow spots that develop an orange rusty appearance.	Sanitation of leaves. This rust will also occur on Florida strangler fig and osage-orange.
Gardenia	Phytophthora Root Rot	Brown discolored, decayed, water-soaked roots.	Sanitation; reduce soil moisture; Banrot or Banol may be used—usually in a nursery situation.
Gardenia, Dwarf	Pythium Root Rot	Lower foliage becomes yellow and then brown. Foliage damage spreads upward. Roots become light brown and wet-rotted. This fungus usually is a problem only on weakened plants.	Remove damaged plants. Improve soil drainage. Reduce water levels in the soil. See AL Pest Management Handbook if fungicide treatment is needed.
Geranium	Oedema	Corky brown spots (2-3 mm) on lower leaf surfaces. Corresponding upper leaf surfaces become yellow spotted.	Reduce watering schedule when weather is cool and cloudy.
Hickory	Heart Rot (<i>Phellinus</i>)	It causes a white rot of	Remove the tree.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		sapwood usually after other organisms have invaded wounds. It develops a conk on crack surface that is usually hoof shaped with top being black and lower poroid surface being brown. Black (pseudosclerotial) plates may appear as black lines in the rotted wood.	
Holly	Pythium Root Rot	Lower foliage becomes yellow and then brown. Foliage damage spread upward. Roots become light brown and wet-rotted. This fungus usually is a problem only on weakened plants.	Remove damaged plants. Improve soil drainage. Reduce water levels in the soil. See AL Pest Management Handbook if fungicide treatment is needed.
Holly, Compacta and Helli	Colletotrichum Leaf Spot	Brown-black circular spots.	Sanitation. Cleary's 3336 may be used as a protective treatment.
	Phytophthora Root Rot	Lower foliage becomes yellowed and brown. Foliage damage spreads upward in plant. Roots become brown rotted & water-soaked. The outer root cortex can be easily slipped off of the inner central root cylinder.	Remove damaged plants. Correct water problem in soil. See the AL Pesticide Handbook; Sanitation.
Helli Holly Liners and Containers	Black Root Rot (<i>Thielaviopsis</i>)	Roots develop black tips and black lesions and sections.	Sanitation; See AL Pest Management Handbook.
	Rhizoctonia Aerial Blight	Lower leaves become spotted and blighted. Leaf fall occurs.	See AL Pest Management Handbook.
Hydrangea	Anthracnose	White-cream colored irregular-oval of spots.	See the AL Pest Management Handbook. See ANR-1212.
	Cercospora Leaf Spot	Irregular brown leaf spots.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Powdery Mildew	Patchy leaf areas with white dusty coating. Necrosis develops later.	See the AL Pest Management Handbook. See ANR-1212.
	Possible Armillaria Crown & Root Rot	Dieback. Decay of crown & roots; white layer (thin) of fungal growth under bark or root surface layer; black, thread-like structures may be present above and below bark; brown mushrooms may be present.	Remove plant and all roots.
Impatiens	Root Knot Nematode (<i>Meloidogyne</i>)	Roots develop galls; plants are unthrifty and stunted.	Remove plants. Solarization or crop rotation. See ANR-689.
Indian Hawthorne	Entomosporium Leaf Spot	Black spots with red borders develop on the foliage.	Sanitation; protective fungicide sprays. See the AL Pest Management Handbook.
Ivy, English	Botryosphaeria Canker	Brown, sunken lesions on stems.	Sanitation - prune out the lesions. Make cuts 2 inches beyond the edge of the lesions. Dip shears into alcohol or a 10% bleach solution between cuts.
	Nectria Canker	Sunken lesions on branches/stems; sometimes diagnostic red pin-point fruiting bodies are present.	Pruning lesions making cuts at least 3 inches beyond lesions edges. Cleary's may help.
Jasmine, Florida	Armillaria Root Rot	Roots become dry-rotted. The fungus may produce a thin, white mycelial mat on roots and under the bark on lower trunk; also the fungus may produce black fungal threads on root surface and lower trunk surface; brown mushrooms may be produced. Dieback of foliage occurs.	See ANR-907.
Juniper	Phomopsis Tip Blight	Dieback.	Sanitation. See the AL

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
			Pest Management Handbook.
	Phytophthora Root Rot	See Arbor-vitae.	See Arbor-vitae comments.
Kalanchoe	Powdery Mildew (<i>Sphaerotheca</i>)	Leaves and stems are covered with a white powdery dusting. Some distortion of new growth may be present. Some foliage yellowing and browning may be present.	Sanitation. Maintain even day-night temperatures if possible. Apply protective sprays of a recommended fungicide. See AL Pest Management Handbook.
Kudzu	Asian Soybean Rust	Small, yellow-brown angular or round leaf spots occur. Lower leaf surface spots produce spore masses that can be seen with a 20X hand lens.	---
Lavender	Fusarium Stem Rot/Pythium	Stems develop brown decay areas.	Sanitation. Reduce water levels in the area. Move lavender to a new area.
Leucothoe	Phytophthora Blight	Foliage dieback. Roots become brown, water-soaked and later dry.	Sanitation. Reduce water levels. Subdue treatments (drenches) may be used according to label directions.
	Phytophthora Root Rot	Lower foliage becomes yellowed and brown. Foliage damage spreads upward in plant. Roots become brown rotted & water-soaked.	Remove damaged plants. Correct water problem in soil. Apply Subdue if a protective fungicide treatment is desired.
	Powdery Mildew	Leaves develop white superficial dusting on surfaces. Affected leaf areas later turn brown.	Improve air circulation. See the AL Pest Management Handbook.
Leyland Cypress	Botryosphaeria Canker	Small-large sunken, cracked branch/trunk lesions.	Sanitation – pruning.
	Cercosporidium Blight	Lower foliage becomes pale green and then brown.	Sanitation; Improve air circulation; See the AL Pest Management

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
			Handbook for protective fungicide treatments. Kocide has recently given good control and it is labeled for use on ornamentals.
	Seiridium Canker	Small-large elongated, sunken lesions with oozing sap.	Pruning. See the AL Pest Management Handbook.
	Phytophthora Root Rot	Roots become brown, and wet-rotted. Plants show dieback.	Sanitation; tree removal; correct water problems.
Ligustrum	Cercospora Leaf Spot	Relatively large, circular, dark brown leaf spots develop.	Collect & remove all fallen leaves from the area. Apply Cleary's 3336 or Halt for protective disease control.
Lupin	Pythium Root Rot/Seedling Disease	Roots become brown and water-soaked.	---
	Rhizoctonia Root Rot	Roots become brown and dried.	---
Magnolia, Southern	Algal Leaf Spot (<i>Cephaleuros</i>)	Green or reddish-colored, slightly raised, usually circular or oval spots with wavy margins develop on upper leaf surfaces.	Sanitation.
Maple, Red	Zonate Leaf Spot (<i>Cristulariella</i>)	Brown, zonate leaf spots which may become large at ¼ inch or more.	Sanitation. See the AL Pest Management Handbook under 'Leaf Spot'.
Marigold Plugs	Alternaria Leaf Spot	Small, dark brown, irregular spots (1-3 mm) on leaves and stems.	See AL Pest Management Handbook.
Mustard	Cercospora Leaf Spot	Light brown irregular-shaped leaf spots.	Sanitation. See the AL Pest Management Handbook.
Oak	Ganoderma Wood/Root Rot	Tree dieback. Conks developing on the trunks of infected trees are	Sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		non-gilled, poroid, with or without a lateral stalk, with a distinctive reddish-brown or gray-brown varnish-like crust on the upper surface.	
	Powdery Mildew (<i>Phyllactinia</i>)	Powdery white dusting on upper leaf surfaces with blight following.	Sanitation. If tree is small, protective sprays of Cleary's 3336.
Oak, Red	Powdery Mildew (<i>Phyllactinia</i>)	Leaves develop white superficial dusting on surfaces. Affected leaf areas later turn brown.	Improve air circulation. See the AL Pest Management Handbook.
Oak, Water	Dryadeus Root Rot (<i>Inonotus</i>)	In eastern & southern U.S., <i>I. andersonii</i> causes a white rot of heart wood initially. When infection moves out to trunk surface, a sheet-like (20 inches or more) yellow-brown fruiting body may develop under the bark. As a result, the bark will fall off.	Remove tree and all roots.
Oats	Crown Rust (<i>Puccinia coronata</i>)	Bright orange, round to oblong, powdery pustules on leaves, sheaths, stems, and panicles.	Resistant cultivars.
	<i>Drechslera avenae</i> Leaf Spot	Small brown flecks become longitudinal strips of dead tissue. Outer edges of the brown strips have diffuse areas of yellow or red which may involve the entire leaf blade. Diseased leaves often die.	Rotation; deep plowing; resistant cultivars. See AL Pest Management Handbook.
Okra	Root Knot Nematode (<i>Meloidogyne</i>)	Plants grow poorly and may be stunted. Roots contain irregularly shaped galls.	Crop rotation, solarization, or use of resistant varieties will help. See ANR-30.
Pansy	Anthrachnose (<i>Colletotrichum</i>)	Small, cream-colored, circular spots with dark	Sanitation; See the AL Pest Management

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		borders.	Handbook; also ANR-1214.
	Black Root Rot (<i>Thielaviopsis</i>)	Black root tips and black root lesions and areas.	Cleary's 3336; See AL Pest Management Handbook and ANR-1214.
	Cercospora Leaf Spot	Gray-black round leaf spots about ¼-½ cm.	Sanitation. Daconil or Cleary's 3336 may be used for protective disease control, also ANR-1214.
	Fusarium Crown & Root Rot	Dieback of foliage. Lower stems and roots become brown and dried. Orange spore masses may develop on surface of dead tissues.	Sanitation. Cleary's 3336 may give some protective control.
	Myrothecium Crown Rot	Collapse of petioles or lower stems. Tiny black and white pin-head sized bodies on collapsed tissues.	Sanitation. Daconil protective sprays. See ANR-1214.
	Phytophthora Crown Rot	Crown, roots become brown and water-soaked.	Sanitation. See the AL Pest Management Handbook and ANR-1214.
	Pythium Crown/Root Rot	Crowns, roots become brown and water-soaked.	See the AL Pest Management Handbook and ANR-1214.
	Rhizoctonia Crown Rot	Crowns develop a dry, brown, sometimes shriveled decay.	Sanitation. Cleary's 3336 would provide some protection. See ANR-1214.
Pear, Bradford	Black Rot (<i>Botryosphaeria obtuse</i>)	Leaf spots are black or brown, sometimes with a dark border. May be confused with <i>Fabraea</i> leaf spot.	Sanitation. Protective sprays of Cleary's 3336 will help.
	<i>Fabraea</i> (<i>Entomosporium</i>) Leaf Spot	Leaf spots are usually black and somewhat circular. May be confused with black rot leaf spots.	Sanitation. See AL Pest Management Handbook.
Pecan	Brown Spot	Circular, reddish brown	Maintain trees in good

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	<i>(Cercospora)</i>	spots appear that become gray with concentric zones, and spots develop irregular shapes.	health; fungicides labeled for control of scab will control brown spot.
Periwinkle	Rhizoctonia Crown Rot	Crowns, roots become dried, brown, rotted.	Sanitation. See the AL Pest Management Handbook.
Phlox	Black Root Rot <i>(Thielaviopsis)</i>	See Pansy.	See Pansy.
Photinia	Entomosporium Leaf Spot	Black spots with dark red borders; spot coalescence; leaf drop.	Protective fungicide sprays; sanitation.
Pine, Virginia	Fusarium Pitch Canker	Elongated cankers. Some resin flow.	Sanitation. See comments in the AL Pest Management Handbook.
	Ploioderma <i>(lophodermium)</i> Needle Cast	Older needles become yellow and then brown in spots; eventually whole needles turn brown and drop. Small black football shaped lesions (1-2 mm long) develop on brown needles.	Protective fungicide sprays. See the AL Pest Management Handbook.
	Rhizosphaeria Needle Cast	Needles turn brown. Tiny black dots (fruiting bodies) occur in a linear arrangement on browning needles.	---
Plum	Brown Rot (<i>Monilinia</i>)	Fruit tissues become brown & rotted. A gray mold may develop on the fruit surface.	Sanitation. Captan. See Ed Sikora.
<i>Poa trivialis</i>	Pythium Blight	Grass leaves become wet, brown, and decayed.	Decrease irrigation. See the AL Pest Management Handbook and A. Hagan.
Poinsettia	Alternaria Leaf Spot	Gray-brown circular leaf spots; zonate pattern possible.	Sanitation. Exotherm Termil may provide protective control.
	Botrytis Blight	Bracts and leaves develop gray lesions and areas. Elongated lesions	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		may occur on stems. A gray web may develop on surface of lesions when conditions are humid.	
	Phyllosticta Leaf Spot	Gray-brown circular leaf spots; tiny black specks (fungal bodies) may be scattered on leaf spot surfaces.	Sanitation. Cleary's 3336 or Halt will provide protection.
	Phytophthora Root Rot	See Pythium Root Rot.	See Pythium Root Rot.
	Pythium Stem and Root Rot	Lower stem and roots become brown, soft, water-soaked, and rotted.	See AL Pest Management Handbook; sanitation.
	Rhizoctonia Crown & Root Rot	Lower stems develop dry, medium-dark brown surface lesions; roots may become brown and dried.	See AL Pest Management Handbook; sanitation.
Privet, Japanese	Cercospora Leaf Spot	Brown, circular-irregular leaf spots; sometimes inner spot areas are light brown and outer spot areas are dark brown.	Sanitation; protective sprays of Cleary's 3336 may help.
Rose	Downy Mildew (<i>Peronospora</i> sp.)	Yellow, irregular spots that become black with age.	Sanitation as possible. See the AL Pest Management Handbook.
Rose, Miniature	Cylindrocladium Root Rot	Roots show black lesions and rotted areas.	Sanitation.
Ryegrass	Piricularia Gray Leaf Spot	Gray, brown, oval leaf spots.	See the AL Pest Management Handbook.
Ryegrass	Pythium Blight	Crowns and leaf blades become wet and greasy-looking.	See AL Pest Management Handbook.
Rye	<i>Bipolaris sorokiniana</i> Leaf Spot	Brown, elongated spots on leaf blades.	None.
Snapdragon	Pythium Root Rot	Roots become water-soaked and light brown.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Soybean	Anthracnose (<i>Colletotrichum truncatum</i>)	Irregularly shaped brown blotches on stems, pods, leaves sometimes with tiny black specks. This disease can cause a reduced yield.	Use disease free seed. Deep plow crop residues.
	Asian Soybean Rust	Very small, angular brown spots develop on upper and lower leaf surfaces. Surfaces of lower leaf spots may become covered with pale orange-white spore masses. Defoliation.	Protective fungicide sprays. See Ed Sikora.
	Charcoal Rot	Dieback. Lower stem inner tissues are gray from masses of tiny black fungal bodies (sclerotia).	Check with Ed Sikora.
	Soybean Cyst Nematode	Plants are stunted, yellowed.	Resistant cultivars & crop rotation. Reduce plant stress by cultural management. See Ed Sikora.
	Stem Canker (<i>Diaporthe phaseolarum</i> var. <i>caulivora</i>)	Small red-brown stem lesions, usually near a leaf node; lesions become large and black, sunken cankers. Leaves develop interveinal yellowing-necrosis; plant die.	Check with Ed Sikora.
St. Augustine	Large Patch [Brown Patch] (<i>Rhizoctonia</i>)	See Centipede.	See Centipede.
	Gray Leaf Spot	Gray colored irregular spots on leaves. Spots may have a dark brown edge.	Sanitation -- mowing. See ANR-621.
	Take-All Patch (<i>Gaeumannomyces</i>)	Black decay areas on stolons and roots. Yellowing and dying of plants.	See AL Pest Management Handbook and ANR-823.
Strawberry	Botrytis Fruit Rot	Fruit tissue becomes brown and watery, decayed. A gray mold	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		may develop on fruit surface.	
	Phomopsis Blight	Leaves develop small red-purple spots that become large zonate spots and later, large V-shaped lesions.	See the AL Pest Management Handbook under 'Leaf Blight'.
	Phytophthora Root & Crown Rot	Crows and roots become brown and soft-rotted. Plants develop yellowed lower leaves, dieback, and wilt.	See the AL Pest Management Handbook and ANR-906.
Sweet Potato	Black Rot (<i>Ceratocystis</i>)	Gray-black, slightly sunken lesions or blotches. Underlying tissues between periderm and vascular system become black, firm, dry.	See AL Pest Management Handbook.
	Fusarium Surface Rot (<i>F. oxysporum</i>) (A Storage Decay)	Surface lesions are initially circular, light-dark brown, firm and dry. Decay usually stops at the vascular ring. Roots with lesions in storage may become shrunken and hardened.	Avoid wounding roots; harvest when soils are dry and temperatures are above 55°F. Follow proper curing procedures.
	Fusarium Root Rot (<i>F. solani</i>) (Primarily a Storage Decay)	Symptoms often appear similar to Fusarium surface rot except that lesions and decay will extend beyond the vascular ring. If infected roots are planted, the fungus may spread into the sprout causing a stem canker.	Avoid wounding roots. See comments above for Fusarium surface rot. Do not take cuttings from infected roots.
	Scurf (<i>Monilochaetes</i>)	A superficial brown-black spotting and blotch of the storage root periderm.	See the AL Pest Management Handbook.
Tomato	Anthracnose (<i>Colletotrichum</i>) (Usually, a Ripe Fruit Disease)	Lesions are colorless, circular, slightly sunken and may develop to a size of ½ inch (1.2 cm). Just below the skin, there is a thin layer of white, dry tissue. The	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		center of the lesion may become black, and orange spore masses may develop during moist conditions.	
	Bacterial Speck (<i>Pseudomonas</i>)	Immature, green fruit tissue is most susceptible. Small (1 mm diam.), slightly raised black specks develop on green or ripe fruit. Spots on leaves & stems are small (2-3 mm or 1/8 inch or less diam.), angular, black, water-soaked with no halo. Leaf spots may coalesce and some leaf tearing may occur.	See the AL Pest Management Handbook.
	Early Blight (<i>Alternaria</i>)	On seedlings, rapid plant death may occur as a result of crown rot. On older plants, spots occur on leaves, stems, fruits. Leaf spots usually occur first on oldest leaves. These spots are circular, brown, up to 1/2 inch or 1.2 cm diameter with a target board patterns of concentric rings. Spotted leaves become yellow and then brown. Fruit spots are brown-black, up to 2.4 cm or 1 inch in diameter, firm, depressed, usually with concentric rings. Typically fruit spots develop at the stem end of the fruit.	See the AL Pest Management Handbook.
	<i>Fusarium solani</i> Damping-Off Gray Wall (Blotchy Ripening) (Environmental Stresses Involved)	Seedling lower stem rot. Green fruit has gray-brown blotches; internal wall tissue is brown. As fruit ripens, brown blotches become yellow on the reddish fruit.	Sanitation. Remove stress situations. Avoid high nitrogen levels and low potassium levels.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Leaf Mold (<i>Cladosporium = Fulvia fulva</i>)	Older leaves damaged first with pale green-yellow spots (undefined margins) on upper leaf surfaces. When relative humidity and temperatures are high, a green mold develops on lower leaf surface of spots. Spots may merge and whole leaves die.	Sanitation – remove all plant debris. Irrigate early in the day. A maneb, mancozeb, or chlorothalonil fungicide will provide control.
	Powdery Mildew	Foliage develops faint white dusty patches which later become necrotic.	---
	Pythium Root Rot	Roots become light brown and water-soaked; roots easily pull apart.	Sanitation - remove damaged plants; reduce water levels in the soil. See the AL Pest Management Handbook.
	Target Spot (<i>Corynespora</i>)	Gray-brown, zonate, oval leaf spots.	Sanitation. See Ed Sikora.
Turnip	Alternaria Leaf Spot	Gray-brown leaf spots, irregular in shape.	See the AL Pest Management Handbook.
	Black Rot (<i>Xanthomonas campestris</i> pv. <i>campestris</i>)	Leaf edges develop V-shaped brown-black lesions. Leaf veins darken near lesions. Eventually, lower stems develop soft rot.	Sanitation. Rotate away from cole crops for 2-3 years.
	Cercospora Leaf Spot & Cercosporella Leaf Spot	Light brown irregularly-shaped spots (about 0.6 cm or ¼ inch diameter) sometimes with a darker brown margin.	See the AL Pest Management Handbook. Also, Benlate recently obtained a label for Cercospora on turnips.
	Pythium Root Rot	Roots become brown and water-soaked.	Reduce irrigation, if possible. Improve soil drainage. Crop rotation for 1 year.
Wheat	<i>Bipolaris sorokiniana</i> Leaf Spot	Brown elongated spots and strips on leaf blades.	See AL Pest Management Handbook.
	Leaf Rust (<i>Puccinia recondite</i>)	Orange-red dots and patches of spore masses on leaves. Plants yellow and show poor growth/	See AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
		head production if infection is severe.	
Willow, Weeping	Cercospora Leaf Spot	Round or irregular, brown leaf spots.	Sanitation of leaves in the fall. See the AL Pest Management Handbook.
Zoysia	Large Patch [Brown Patch] (<i>Rhizoctonia</i>)	Leaf blades and sometimes crowns become blighted and decayed. Often, patches of brown foliage develop in lawn area.	See AL Pest Management Handbook and ANR-492.
	Ring Nematode (<i>Criconeoides</i> sp.)	Areas of the lawn develop spots with yellowing and thinning.	See ANR-523.
	Rust (<i>Puccinia</i>)	Orange powdery dusting (spores) gives an orange tint over green or green-yellow blotched leaves.	See AL Pest Management Handbook.
	Take-All (<i>Gaeumannomyces</i>)	Yellowing and dieback. Roots develop black lesions.	See ANR-823.